REMARKS

Claims 1-3 and 5 are pending in this application. By this Amendment, claims 1, 2 and 5 are amended and claim 4 is canceled. Support for the amended claims may be found in the original specification at, for example, Figures 1(1-4). No new matter is added.

Reconsideration of the application is respectfully requested.

I. Priority

The Patent Office alleged that a certified copy of the PCT/JP03/08312 is required for claiming priority under 35 U.S.C. §119(b). However, this requirement is in error because the current application is not claiming foreign priority of the parent PCT application under 35 U.S.C. §119(b). Instead, it is a national stage application of the PCT application filed under 35 U.S.C. §363 and §371. This is governed by 35 U.S.C. §119(e), which does not require a certified copy of the PCT application.

Therefore, no certified copies of the PCT application need to be filed. An indication that all necessary certified copies of the priority documents have been received is requested.

II. Rejection Under 35 U.S.C. §112, Second Paragraph

Claim 4 was rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite.

Claim 4 is canceled. Therefore, this rejection is moot.

III. Rejections Under 35 U.S.C. §102(b)

Claims 1-5 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,203,772 ("Tanino '772").

Claims 1-4 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,153,165 ("Tanino '165").

Applicants respectfully traverse each of these rejections.

A. **Tanino '772**

Claim 1

Tanino '772 fails to teach or suggest a large-diameter SiC wafer, wherein a diameter is increased as a double structure of single crystal SiC and polycrystal SiC by planarly forming a film of polycrystal SiC in a flat plate shape around an outer circumference of a small diameter α-SiC single crystal wafer previously formed as a wafer, as recited in claim 1.

Tanino '772 discloses forming polycrystal 2e over a whole periphery of the side face of a single crystal α-SiC substrate 1 (alleged small diameter α-SiC single crystal wafer) (see column 3, lines 30-40). That is, the single crystal α-SiC substrate 1 (alleged small diameter α-SiC single crystal wafer) has polycrystal 2e (alleged polycrystal SiC) over a top (or bottom) surface and part of each side surface (see Tanino '772, FIG. 2). Further, Tanino '772 discloses a thick α-SiC single crystal wafer produced by superposing single-crystallized wafers to integrate the wafers with each other.

In contrast, claim 1 recites planarly forming a film of polycrystal SiC in a flat plate shape around an outer circumference of a small diameter α-SiC single crystal wafer (see specification, FIG 1(1-4)). Thus, a large wafer is formed, increasing the diameter of the wafer. Nowhere does Tanino '772 teach or suggest a large-diameter SiC wafer, wherein a diameter is increased as a double structure of single crystal SiC and polycrystal SiC by planarly forming a film of polycrystal SiC in a in a flat plate shape around an outer circumference of a previously formed small diameter α-SiC single crystal wafer. As such, Tanino '772 fails to teach or suggest each and every claim feature.

Claim 5

With respect to claim 5, Tanino '772 fails to teach or suggest a manufacturing method of a large-diameter SiC wafer including the steps of planarly placing a small diameter α-SiC single crystal wafer previously formed as a wafer on a graphite plate and simultaneously

masking a surface of a substrate, planarly forming a film of polycrystal SiC around an outer circumference of said wafer from its masking plane side and integrating them, and thereafter grinding the polycrystal SiC on the surface of the α-SiC single crystal wafer to manufacture an increased-diameter SiC of a double structure in which the polycrystal SiC plate portion is formed around an outer circumference of the small-diameter α-SiC single crystal wafer, as recited in claim 5.

As detailed above, Tanino '772 fails to teach or suggest a large-diameter SiC wafer, wherein a diameter is increased as a double structure of single crystal SiC and polycrystal SiC by planarly forming a film of polycrystal SiC in a flat plate shape around an outer circumference of a small diameter α-SiC single crystal wafer previously formed. Furthermore, Tanino '772 fails to disclose the steps of planarly placing a small diameter α-SiC single crystal wafer previously formed as a wafer on a graphite plate and simultaneously masking a surface of a substrate, planarly forming a film of polycrystal SiC around an outer circumference of said wafer from its masking plane side and integrating them, and thereafter grinding the polycrystal SiC on the surface of the α-SiC single crystal wafer to manufacture an increased-diameter SiC of a double structure. As such, Tanino '772 fails to teach or suggest each and every claim feature.

Conclusion

For at least the foregoing reasons, claims 1 and 5, and dependent claims thereof, are patentable over the applied references. Thus, withdrawal of the rejection under 35 U.S.C. §102(b) is respectfully requested.

B. Tanino '165

Claim 1

Tanino '165 fails to teach or suggest a large-diameter SiC wafer, wherein a diameter is increased as a double structure of single crystal SiC and polycrystal SiC by planarly forming a

film of polycrystal SiC in a flat plate shape around an outer circumference of a small diameter α-SiC single crystal wafer previously formed as a wafer, as recited in claim 1.

Tanino '165 discloses growing a polycrystalline cubic β-SiC plate 2 (alleged polycrystal SiC) on a surface of a single crystal hexagonal α-SiC base material 1 (alleged small diameter α-SiC single crystal wafer). That is, the single crystal hexagonal α-SiC base material 1 (alleged small diameter α-SiC single crystal wafer) has polycrystalline cubic β-SiC plate 2 (alleged polycrystal SiC) over a top and/or bottom surface and part of each side surface (see Tanino '165, FIG. 1). Further, Tanino '165 discloses that a β-SiC is formed as a film on a surface of an α-SiC single crystal wafer, and is converted to a α-SiC single layer by heat treatment. The α-SiC single layer being oriented in the same direction as that of a crystal axis of an α-SiC base to integrate the crystals.

In contrast, claim 1 recites forming a film of polycrystal SiC in a flat plate shape around an outer circumference of a small diameter α-SiC single crystal wafer (see specification, FIG 1(1-4)). Thus, a large wafer is formed increasing the diameter of the wafer. Nowhere does Tanino '165 teach or suggest a large-diameter SiC wafer, wherein a diameter is increased as a double structure of single crystal SiC and polycrystal SiC by planarly forming a film of polycrystal SiC in a in a flat plate shape around an outer circumference of a small diameter α-SiC single crystal wafer previously formed. As such, Tanino '165 fails to teach or suggest each and ever claim feature.

Further, Tanino '165 does not increase a wafer diameter like that of the claim 1. Tanino '165 discloses that a portion extruded from a side edge of a single crystal wafer is formed as a result of a using a CVD method. However, this formation only increases a thickness, not an increased diameter as claimed.

Conclusion

For at least the foregoing reasons, claim 1, and dependent claims thereof, are patentable over the applied reference. Thus, withdrawal of the rejection under 35 U.S.C. §102(b) is respectfully requested.

IV. Rejection Under 35 U.S.C. §103(a)

Claim 5 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Tanino '165 in view of Tanino '772.

Applicants respectfully traverse this rejection.

Neither Tanino '165 nor Tanino '772, alone or in combination, teach or suggest a manufacturing method of a large-diameter SiC wafer including the steps of planarly placing a small diameter α-SiC single crystal wafer previously formed as a wafer on a graphite plate and simultaneously masking a surface of a substrate, planarly forming a film of polycrystal SiC around an outer circumference of said wafer from its masking plane side and integrating them, and thereafter grinding the polycrystal SiC on the surface of the α-SiC single crystal wafer to manufacture an increased-diameter SiC of a double structure in which the polycrystal SiC plate portion is formed around an outer circumference of the small-diameter α-SiC single crystal wafer, as recited in claim 5.

The Patent Office concedes that Tanino '165 fails to disclose the features of claim 5 and relies on Tanino '772 as allegedly disclosing these features. However, as detailed above, Tanino '772 fails to teach or suggest a large-diameter SiC wafer, wherein a diameter is increased as a double structure of single crystal SiC and polycrystal SiC by planarly forming a film of polycrystal SiC in a flat plate shape around an outer circumference of a small diameter α-SiC single crystal wafer, along with the steps of planarly placing a small diameter α-SiC single crystal wafer previously formed as a wafer on a graphite plate and simultaneously masking a surface of a substrate, planarly forming a film of polycrystal SiC around an outer

circumference of said wafer from its masking plane side and integrating them, and thereafter grinding the polycrystal SiC on the surface of the α-SiC single crystal wafer to manufacture an increased-diameter SiC of a double structure. Thus, Tanino '772 fails to cure the deficiencies of Tanino '165 in disclosing or rendering obvious the features of claim 5.

Tanino '165 has no technical idea of increasing a wafer diameter. This is because a portion extruded from the side edge of a single crystal wafer is not positively formed but it is no more than a redundant crystal portion formed as a result of using a CVD method. Even in view of Tanino '772, it can be conceived only that the wafer of Tanino '165 is made larger in thickness, but it is not conceived that the diameter of a wafer can be increased as claimed.

In any event, Tanino '165 and Tanino '772 include a step of forming polycrystal Si on a single crystal SiC by thermal CVD, but have an object of heat-treating a single-crystal/polycrystal stacked body at a high temperature to convert a polycrystal body into a single crystal by recrystallization (solid phase conversion). Although the diameter of a wafer is slightly increased in comparison with the original single crystal because polycrystal SiC is CVD coated, it is understood from the cited references that this portion remains unchanged as a polycrystal. Although there is no distinct description, it is assumed that this circumference portion is cut at the time of processing a single crystal wafer. These inventions do not aim at increasing the diameter of a wafer. They describe that the ideal film thickness of a polycrystal by CVD is 300 μm. For this reason, even if the diameter is increased, the diameter is no more than 600 μm at the maximum.

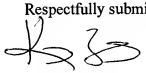
For at least the foregoing reasons, claim 5 is patentable over the applied references. Thus, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-3 and 5 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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